PREVALENCE OF ASYMTOMATIC TOXIC AND NONTOXIC CLOSTRIDIUM DIFFICILE IN A BAVARIAN POPULATION

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Background and Aims:
Health care associated outbreaks especially with toxigenic C. difficile (CD) are difficult to control and increasingly reported from America and Europe with new, highly virulent strains, e.g. PCR-ribotype 027. Financial impact of CD associated disease (CDAD) on the healthcare system is substantial (5-15,000 euro/case in England and $1.1 billion/year in the USA). CD can be transmitted via personal contact or environmentally. In the majority of cases, it is associated with previous antibiotic exposure. The role of patients and healthcare workers who are symptom-free but colonised with CD in the intestinal tract is unclear, especially as CD is recognised increasingly in individuals previously not considered to be predisposed.
Most of these studies on prevalence of CD have looked at clinical or hospital admission specimens though, thus subjects with some recent previous medical treatment. Therefore they are inappropriate to assess the relevance of asymptomatic CD colonisation in the general population for health care associated CDAD.
We assessed gastrointestinal CD in asymptomatic subjects from a pool of routine stool samples of the Bavarian Health and Food Safety Authority.
Methods:
Stool of 767 individuals (gender, age and place of residence obtained during surveillance) was screened for CD and toxin production with an antibody-based test (C. diff Quick Chek Complete, Fa. Oxoid), supplemented by a culture-based approach and PCR -ribotyping.
Results:
Of 767 individuals 25 (3.3 %) were screened CD positive. From 12 (1,6 %) individuals toxigenic CD isolates were obtained, none were PCR-ribotype 027. In follow-up questioning 7 of these 12 individuals reported recent hospitalisation. When these are excluded prevalence to CD colonisation with toxigenic strains was 0.7% (5/767).
Conclusions:
CD prevalence was low in this asymptomatic population, indicating transmission in heath care and predisposition, i.e. antibiotic treatment being most relevant for health care associated CD.